SESSION #3

SCIENCE AND TECHNOLOGY FOR AIR FORCE M&S

ISSUE

The need for Air Force Science and Technology (S&T) investment in Modeling and Simulation is not resolved.

BACKGROUND

- There is no established Air Force technology needs process for M&S. Electronic Systems Center (ESC) Technical Planning Integrated Product Team (TPIPT) required to study and address S&T M&S investment question is still evolving.
- The increased importance placed on M&S by DoD and Air Force leaders has raised concerns about whether the technologies needed to realize the DoD M&S vision are getting adequate attention and resources.
- In the DoD, M&S enabling technologies have historically been developed by DARPA. DARPA has recently considered phasing out its investment in these technologies in the coming years, begging the question of which DoD component will pick up the effort.
- Air Force Technology Area Plans (TAPs) link laboratory management systems to the POM process. They provide vision, scope, direction, and advocacy for the Air Force S&T Program's 11 broad technology areas (e.g., Air Vehicles, Avionics, Space and Missiles, etc.).
- M&S technology investments by DMSO, the Army and Navy have been primarily at the 6.3 (Advanced Technology Development) to 6.4 (Demonstration/Validation)-level, without much focus on 6.1 (Basic Research) or 6.2 (Applied Research)-level needs.
- AF leverage of M&S-related technology investments by commercial industry, while highly advantageous, does not support the full spectrum of DoD M&S technology applications.
- Within the Air Force, these concerns have given rise to a detailed examination of the current technical capabilities (i.e., experts, hardware and software tools, specialized processes, etc.) supporting M&S that are available in the Air Force labs, across DoD, and in Industry.

DISCUSSION

- An AFMC/ST-sponsored study is currently being conducted by M&S experts from across the four Air Force "Superlabs" to determine the current status of M&S enabling technologies required to meet Air Force warfighter needs. Once the current picture is assessed, recommendations will be made on what - if any - investments should be made by the Air Force to advance the development of M&S enabling technologies.
- The enabling technologies study will feed into the recently approved (21 Jun 96) Air Force Functional Area Plan (FAP) for M&S. The FAP is XOM's initiative to establish an Air Force technology needs process for M&S that parallels Mission Area Planning process. The purpose of the FAP is to document the Air Force's evaluation of the M&S functional area, pinpoint deficiencies, provide guidance to affordably, and overcome the cited deficiencies through improved Air Force M&S modernization planning efforts during the next 25 years. If it appears that technologies will not be available to meet current or projected Air Force M&S needs, the M&S FAP should identify them as technology needs. Any such technology needs identified will be used to focus or initiate Air Force laboratory 6.1, 6.2 and 6.3 programs to

address them. The M&S FAP is intended to be updated and published on an annual basis to reflect changing capabilities, requirements and deficiencies. The next iteration will be called the Mission Support Plan (MSP).

RECOMMENDATION

Establish an S&T funding line for M&S enabling technologies.

- Review results of AFMC/ST study on M&S enabling technologies.
- Use the Air Force Simulation and Analysis Working Group structure to advise Air Force leadership on any future S&T M&S technology deficiencies identified by the study and/or the Functional Area Planning Process.
- Maintain appropriate Air Force Headquarters level-of-effort necessary for guidance and support of ESC's M&S TPIPT in order to facilitate expansion/acceleration of their efforts to conduct effective M&S Functional Area assessments, analyses, and investment planning.
- Refine M&S technology needs process as detailed in the FAP/MSP.